

WHAT IS CLAIMED IS:

1. An adjustable aperture system, comprising:
  - a stationary aperture operable to remove a portion of a lower intensity light communicated through a light bundle;
  - an adjustable aperture comprising a notch and capable of varying an amount of projection light communicated through the light bundle, wherein the notch operates to reduce the effect of the adjustable aperture on a high intensity light communicated through the light bundle; and
  - a control motor operable to receive a control signal and to selectively manipulate the adjustable aperture.
- 15 2. The adjustable aperture system of Claim 1, wherein the stationary aperture reduces the effect of off state light communicated through the light bundle on a projected image when the adjustable aperture is in its full closed position.
- 20 3. The adjustable aperture system of Claim 1, wherein the adjustable aperture includes a scallop section that provides a relatively linear response as the adjustable aperture transitions through the light bundle.
- 25 4. The adjustable aperture system of Claim 3, wherein a radius of the scallop section is substantially similar to a radius associated with the light bundle.
- 30 5. The adjustable aperture system of Claim 1, wherein the adjustable aperture comprises a material

selected from the group consisting of black 30% glass  
filed Ultem™ and anodized aluminum.

6. The adjustable aperture system of Claim 1,  
5 wherein the notch operates to communicate at least a  
majority of the high intensity light communicated through  
the light bundle.

7. The adjustable aperture system of Claim 1,  
10 wherein the notch operates to communicate substantially  
all of a high intensity light communicated through the  
light bundle.

8. The adjustable aperture system of Claim 1,  
15 wherein the notch operates to communicate at least a  
minimum amount of projection light through the adjustable  
aperture when the adjustable aperture is in its full  
closed position.

20 9. The adjustable aperture system of Claim 8,  
wherein the minimum amount of light comprises at least  
twenty-five percent of the projection light communicated  
through the light bundle.

25 10. The adjustable aperture system of Claim 1,  
wherein the control motor comprises a trapezoidal voice  
coil motor capable of at least 128 step changes and is  
capable of transitioning through the at least 128 steps  
in approximately sixteen milliseconds or less.

11. The adjustable aperture system of Claim 1,  
wherein the control motor is selected from the group  
consisting of a fast-acting linear actuator, a  
galvanometer type actuator, and a rotary actuator.

12. An image display system, comprising:

a modulator operable to selectively communicate a projection light beam along a projection light path; and

5 at least one adjustable aperture positioned in the projection light path and operable to selectively vary an amount of the projection light beam communicated from the modulator, the adjustable aperture comprising a notch that operates to reduce the effect of the adjustable aperture on a high intensity light associated with the 10 projection light beam and wherein the notch communicates at least a majority of the high intensity light associated with the projection light beam.

13. The system of Claim 12, wherein the modulator 15 comprises a device selected from a group consisting of a digital micro-mirror device, a reflective liquid crystal modulator, and a light emitting diode modulator

14. The system of Claim 12, wherein the at least 20 one adjustable aperture selectively varies the amount of the projection light beam based at least in part on image data.

15. The system of Claim 14, wherein the image data 25 comprises data selected from a group consisting of an image content of an image frame, a color content of an image frame, an integrated intensity of an image frame, a peak-to-peak intensity value of an image frame, and subjectively weighted area.

16. The system of Claim 12, further comprising:

a control module operable to control a position of the adjustable aperture based at least in part on image data received from a communication device; and

5 a control motor operable to receive a control signal and to selectively manipulate the adjustable aperture.

17. The system of Claim 16, wherein the control motor comprises a trapezoidal voice coil motor capable of transitioning through at least 128 steps in approximately  
10 sixteen milliseconds.

18. The system of Claim 16, wherein the control motor is selected from the group consisting of a fast-acting linear actuator, a galvanometer type actuator, and  
15 a rotary actuator.

19. An adjustable aperture system, comprising:  
an adjustable aperture comprising a notch and  
capable of varying an amount of projection light  
communicated through the light bundle, wherein the notch  
5 operates to reduce the effect of the adjustable aperture  
on a high intensity light communicated through the light  
bundle and wherein the notch communicates at least a  
majority of the high intensity light communicated through  
the light bundle; and
- 10 a control motor operable to receive a control signal
20. The adjustable aperture system of Claim 19,  
wherein the adjustable aperture includes a scallop  
section that provides a relatively linear response as the  
15 adjustable aperture transitions through the light bundle.